Construction Site Runoff Control

An Overview of Requirements

Why do we have to do this?

- Sediment is one of the leading water resource pollutants nationwide
- Construction site sediment runoff is 10x to 20x more than ag land
- Other construction site wastes (cement, paint, fuel, oil, etc.) are also problems
- It's the law . . . .

Why are we concerned about runoff from Construction Sites?

- Basic Goal of the Program:
  - Prevent erosion during construction

- Two types of practices you can follow:
  - *Erosion Control* – prevents soil from being dislodged
  - *Sediment Control* – captures soil after its dislodged but before it leaves the site

Key Terms

- *NPDES* – National Pollutant Discharge Elimination System
- *NOI* – Notice of Intent
- *SWPPP* – Storm Water Pollution Prevention Plan
- *BMP* – Best Management Practice
- *“Construction Activity”* – land disturbance including clearing, grading, excavating

Construction stormwater requirements

Two programs address construction site stormwater runoff:

- Statewide Construction General Permit
  - Applies to all construction activity disturbing at least one acre
  - Permits issued by EPA or the State
- Phase II construction minimum measure
  - Phase II MS4 required to regulate construction disturbing at least one acre
  - Program administered at local level

Statewide Construction General Permit Coverage

- Permit issued by State agency or EPA
  - All EPA Region 8 States issue the permits except for Federal facilities in Colorado and Indian Country in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming
- EPA issued a new Construction General Permit (CGP) on July 1, 2003
- Permit applies to construction activity disturbing one acre or greater
- Projects on less than one acre must be required to obtain a permit if part of a “larger common plan of development”

EPA's Construction General Permit (CGP)

- Applies in 5 states (NH, MA, NM, ID, AK), Indian Country (in all Region 8 states) and some federal facilities (including Colorado)
- In other areas, you must apply to your state environmental agency
- Construction sites must:
  - Obtain permit coverage (using a form called a "Notice of Intent" or NOI)
  - Plan and implement erosion and sediment controls
  - Terminate permit coverage at the conclusion of construction

Who is responsible?

- The Construction Operator must comply with the permit. An operator is:
  - Someone who has control over & ability to modify site plans or specifications and/or
  - Someone with day-to-day operational control at the site
- An operator can be a developer, general contractor, or builder (generally not a subcontractor).

How to Obtain Coverage Under the Permit
Step 1: Read the Construction General Permit and Fact Sheet

- ✓ Get copy of permit from your State or EPA
- ✓ You are responsible for knowing what's required in the permit before submitting the NOI.
- ✓ Keep a copy of the permit with your paperwork.

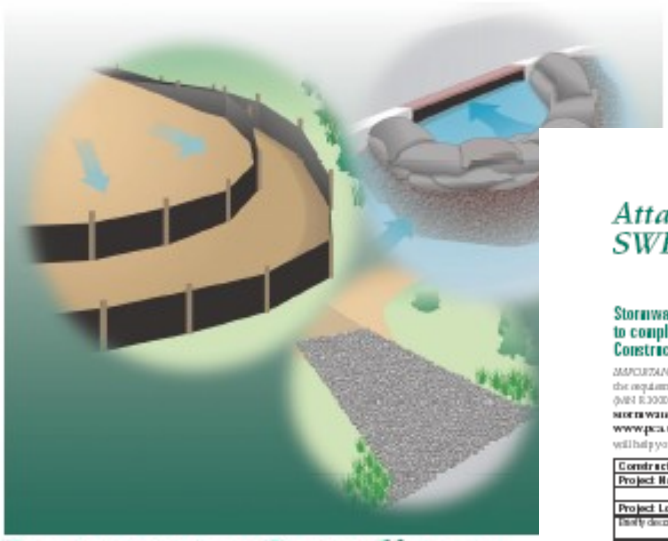
Step 2: Make sure you are eligible to apply for the permit.

- Will your project ultimately disturb at least one acre?
- If your project disturbs less than one acre, are you part of a larger common plan that disturbs at least one acre?
  - e.g., subdivision plan
- For EPA permits, assess whether your project will impact endangered species

Step 3: Develop and Implement a Stormwater Pollution Prevention Plan

- A SWPPP is more than just an erosion and sediment control plan. A SWPPP should also include:
  - Good housekeeping practices
  - Maintenance considerations
  - Inspection frequencies/procedures
  - Signature/certification
  - Address availability of Plan

Minnesota Pollution Control Agency



Stormwater Compliance Assistance Toolkit For Sma Construction Operators

March 2004

Attachment A: Construction SWPPP Template

Stormwater Pollution Prevention Plan (SWPPP) Template to comply with the General Stormwater Permit for Construction Activity (MN R100001)

IMPORTANT: Before completing this SWPPP, you must read and understand the requirements in the General Stormwater Permit for Construction Activity (MN R100001) available from MPCA at **www.pca.state.mn.us/water/stormwater/index.html**. An overview of the permit is available from MPCA at **www.pca.state.mn.us/publications/wq-strm2-05.pdf**. This SWPPP Template will help you complete information required in Parts III and IV of the permit.

Construction Activity Information
Project Name
Project Location
Briefly describe where construction activity occurs. Include address if available
City or Township / State, Zip Code MN
County name and abbreviation if necessary
All cities where construction will occur
All counties where construction will occur / All townships where construction will occur
Project Size (number of acres to be disturbed)
Project Type
☐ Residential / ☐ Commercial/Industrial / ☐ Road Construction
☐ Other (describe)
Cumulative Impervious Surface
Existing area of impervious surface _____ (to the nearest quarter acre)
Post construction area of impervious surface _____ (to the nearest quarter acre)
Receiving Waters
Name of Water Body / Type (ditch, pond, wetland, lake, stream, river) / Appendix A special water?
☐ Yes ☐ No
☐ Yes ☐ No
☐ Yes ☐ No
☐ Yes ☐ No

Dates of Construction	
Construction Start Date	Estimated Completion Date

Contact Information		
Owner of the Site		
Business or Firm Name	Federal Tax ID	State Tax ID
Last Name First Name Title	E-mail	Telephone (include area code)
Mailing Address	City	State Zip Code
Alternate Contact Last Name First Name	E-mail	Telephone (include area code)
Contractor (Person who will oversee implementation of the SWPPP)		
Business or Firm Name	Federal Tax ID	State Tax ID
Last Name First Name Title	E-mail	Telephone (include area code)
Mailing Address	City	State Zip Code
Alternate Contact Last Name First Name	E-mail	Telephone (include area code)
Party Responsible for Long Term Operation and Maintenance of the Permanent Stormwater Management System		
Business or Firm Name	Federal Tax ID	State Tax ID
Last Name First Name Title	E-mail	Telephone (include area code)
Mailing Address	City	State Zip Code
Alternate Contact Last Name First Name	E-mail	Telephone (include area code)

General Construction Project Information
Describe the construction activity (what will be built, general timeline, etc.)
Describe soil types found at the project.

http://www.pca.state.mn.us/publications/wq-strm2-09.pdf

Step 5: Develop and Implement a Stormwater Pollution Prevention Plan

Implement the Plan

- Implement the controls
- Inspect and maintain the controls
- Update/change plan as necessary
- Keep SWPPP onsite
- Post a sign or notice

Step 4: Complete and submit a Notice of Intent (NOI)

- ✓ The NOI is not an ‘application.’ You will not receive the permit from your State or EPA later in the mail.
- ✓ By signing and submitting the NOI, you are agreeing to comply with all requirements in the construction general permit.

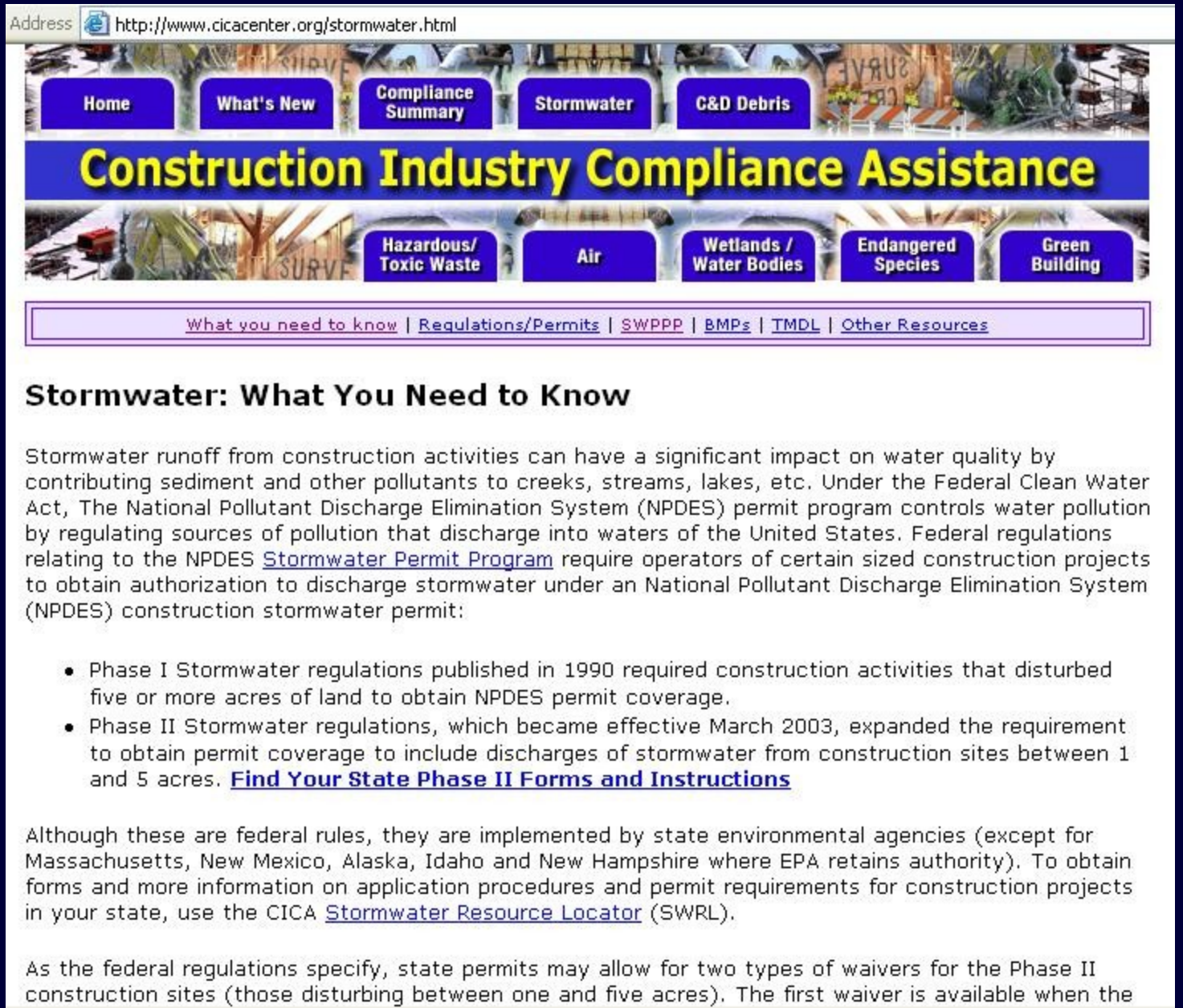
EPA's Electronic Notice of Intent System (eNOI)

- The new electronic stormwater Notice of Intent system

  - Replaces an entire set of paper forms
  - Places important reference documents at the user's fingertips
  - Provides clear, easy-to-understand instructions

http://www.epa.gov/npdes/stormwater/cgp

CICACenter.org


Address
http://www.cicacenter.org/stormwater.html
Home
What's New
Compliance Summary
Stormwater
C&D Debris
Construction Industry Compliance Assistance
Hazardous/ Toxic Waste
Air
Wetlands / Water Bodies
Endangered Species
Green Building
What you need to know | Regulations/Permits | SWPPP | BMPs | TMDL | Other Resources
Stormwater: What You Need to Know
Stormwater runoff from construction activities can have a significant impact on water quality by contributing sediment and other pollutants to creeks, streams, lakes, etc. Under the Federal Clean Water Act, The National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating sources of pollution that discharge into waters of the United States. Federal regulations relating to the NPDES Stormwater Permit Program require operators of certain sized construction projects to obtain authorization to discharge stormwater under an National Pollutant Discharge Elimination System (NPDES) construction stormwater permit:
Phase I Stormwater regulations published in 1990 required construction activities that disturbed five or more acres of land to obtain NPDES permit coverage.
Phase II Stormwater regulations, which became effective March 2003, expanded the requirement to obtain permit coverage to include discharges of stormwater from construction sites between 1 and 5 acres. Find Your State Phase II Forms and Instructions
Although these are federal rules, they are implemented by state environmental agencies (except for Massachusetts, New Mexico, Alaska, Idaho and New Hampshire where EPA retains authority). To obtain forms and more information on application procedures and permit requirements for construction projects in your state, use the CICA Stormwater Resource Locator (SWRL).
As the federal regulations specify, state permits may allow for two types of waivers for the Phase II construction sites (those disturbing between one and five acres). The first waiver is available when the

Phase II Minimum Control Measure:

Construction Site Storm Water Runoff Control

MUST:

- Develop a program to reduce pollutants from construction activities that disturb ≥ 1 acre
- Have an ordinance, or other regulatory means, with penalties, that requires appropriate E&S controls and requirements to control “other” wastes (Storm Water Pollution Prevention Plan)
- Have procedures for:
  - site plan review to consider water impacts
  - site inspection & enforcement of control BMPs
  - Receiving & considering public input
  - determining appropriate BMPs for SWPPPs

Measure:
Construction Site Storm Water Runoff Control

RECOMMEND:

- Procedures for site plan review should include review of individual pre-construction site plans
  - BMPs, water impacts can be addressed early
- Procedures for site inspections and enforcement could include steps to identify priority sites, based on the nature of the site, topography, soil characteristics, and receiving water quality
  - Helps to “screen out” low/no impact sites
- Provide appropriate educational and training measures for construction site operators
  - Reduces problems, improves compliance, establishes standard expectations (“predictability”) regarding inspections, enforcement, etc.

US EPA Resources on the Web:

http://cfpub.epa.gov/npdes/stormwater/munic.cfm

EPA

United States Environmental Protection Agency | Office of Water (4204) | EPA 833-R-00-002 March 2000

Storm Water Phase II Compliance Assistance Guide

National Menu of Best Management Practices

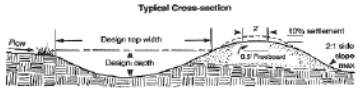
Permanent Diversions

Construction Site Storm Water Runoff Control

Description

Diversions can be constructed by creating channels across slopes with supporting earthen ridges on the bottom sides of the slopes. The ridges reduce slope length, collect storm water runoff, and deflect the runoff to acceptable outlets that convey it without erosion.

Typical Cross-section



Site planners incorporate diversions into the overall grading plan to direct clean runoff away from exposed areas

Applicability

Diversions are used in areas where runoff from
damage or erosion. Diversions can also be used
lower elevations. Finally, diversions protect upl
shallow subsurface flow by reducing slope leng

Siting and Design Considerations

Ridge. A cross section of the earthen ridge must
design water elevation of at least 4 feet; a minim
settlement factor included in the design.

Outlet. Four acceptable outlets for the conveyan
include:

1. *Storm water conveyance channel.* A p
vegetation, that is appropriately shaped
developing areas without any damage fr
that are required for channel construction

- All obstructions and unsuitable m
any excess soil should be remov
- The channel must meet grade an
must be compacted to ensure equ
- Parabolic and triangular-shaped,
more than 30 feet.

EPA

United States Environmental Protection Agency | Office of Water (4203) | EPA 833-F-00-002 January 2000 Fact Sheet 2.0

Storm Water Phase II Final Rule

Small MS4 Storm Water Program Overview

Storm Water Phase II Final Rule Fact Sheet Series

Overview

1.0 – Storm Water Phase II Final Rule: An Overview

Small MS4 Program

2.0 – Small MS4 Storm Water Program Overview

2.1 – Who's Covered? Designation and Waivers of Regulated Small MS4s

2.2 – Urbanized Areas: Definition and Description

Minimum Control Measures

2.3 – Public Education and Outreach

2.4 – Public Participation/ Involvement

2.5 – Illicit Discharge Detection and Elimination

2.6 – Construction Site Runoff Control

2.7 – Post-Construction Runoff Control

2.8 – Pollution Prevention/Good Housekeeping

2.9 – Permitting and Reporting: The Process and Requirements

2.10 – Federal and State-Operated MS4s: Program Implementation

Construction Program

3.0 – Construction Program Overview

3.1 – Construction Rainfall Erosivity Waiver

Industrial "No Exposure"

4.0 – Conditional No Exposure Exclusion for Industrial Activity

Polluted storm water runoff is often transported to municipal separate storm sewer systems (MS4s) and ultimately discharged into local rivers and streams without treatment. EPA's Storm Water Phase II Rule establishes an MS4 storm water management program that is intended to improve the Nation's waterways by reducing the quantity of pollutants that storm water picks up and carries into storm sewer systems during storm events. Common pollutants include oil and grease from roadways, pesticides from lawns, sediment from construction sites, and carelessly discarded trash, such as cigarette butts, paper wrappers, and plastic bottles. When deposited into nearby waterways through MS4 discharges, these pollutants can impair the waterways, thereby discouraging recreational use of the resource, contaminating drinking water supplies, and interfering with the habitat for fish, other aquatic organisms, and wildlife.

In 1990, EPA promulgated rules establishing Phase I of the National Pollutant Discharge Elimination System (NPDES) storm water program. The Phase I program for MS4s requires operators of "medium" and "large" MS4s, that is, those that generally serve populations of 100,000 or greater, to implement a storm water management program as a means to control polluted discharges from these MS4s. The Storm Water Phase II Rule extends coverage of the NPDES storm water program to certain "small" MS4s but takes a slightly different approach to how the storm water management program is developed and implemented.

What Is a Phase II Small MS4?

A small MS4 is any MS4 not already covered by the Phase I program as a medium or large MS4. The Phase II Rule automatically covers on a nationwide basis all small MS4s located in "urbanized areas" (UAs) as defined by the Bureau of the Census (unless waived by the NPDES permitting authority), and on a case-by-case basis those small MS4s located outside of UAs that the NPDES permitting authority designates. For more information on Phase II small MS4 coverage, see Fact Sheets 2.1 and 2.2.

What Are the Phase II Small MS4 Program Requirements?

Operators of regulated small MS4s are required to design their programs to:

- Reduce the discharge of pollutants to the "maximum extent practicable" (MEP);
- Protect water quality; and
- Satisfy the appropriate water quality requirements of the Clean Water Act.

Implementation of the MEP standard will typically require the development and implementation of BMPs and the achievement of measurable goals to satisfy each of the six minimum control measures.

The Phase II Rule defines a small MS4 storm water management program as a program comprising six elements that, when implemented in concert, are expected to result in significant reductions of pollutants discharged into receiving waterbodies.

EPA

United States Environmental Protection Agency | Office of Water (4203) | EPA 833-F-00-008 January 2000 Fact Sheet 2.6

Storm Water Phase II Final Rule

Construction Site Runoff Control Minimum Control Measure

Storm Water Phase II Final Rule Fact Sheet Series

Overview

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Minimum Control Measures

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2.4 – Public Participation/ Involvement

2.5 – Illicit Discharge Detection and Elimination

2.6 – Construction Site Runoff Control

2.7 – Post-Construction Runoff Control

2.8 – Pollution Prevention/Good

This fact sheet profiles the Construction Site Runoff Control minimum control measure, one of six measures that the operator of a Phase II regulated small municipal separate storm sewer system (MS4) is required to include in its storm water management program to meet the conditions of its National Pollutant Discharge Elimination System (NPDES) permit. This fact sheet outlines the Phase II Final Rule requirements and offers some general guidance on how to satisfy them. It is important to keep in mind that the small MS4 operator has a great deal of flexibility in choosing exactly how to satisfy the minimum control measure requirements.

Why Is The Control of Construction Site Runoff Necessary?

Polluted storm water runoff from construction sites often flows to MS4s and ultimately is discharged into local rivers and streams. Of the pollutants listed in Table 1, sediment is usually the main pollutant of concern. Sediment runoff rates from construction sites are typically 10 to 20 times greater than those of agricultural lands, and 1,000 to 2,000 times greater than those of forest lands. During a short period of time, construction sites can contribute more sediment to streams than can be deposited naturally during several decades. The resulting siltation, and the contribution of other pollutants from construction sites, can cause physical, chemical, and biological harm to our nation's waters. For example, excess sediment can quickly fill rivers and lakes, requiring dredging and destroying aquatic habitats.

Table 1

Pollutants Commonly Discharged From Construction Sites
Sediment
Solid and sanitary wastes
Phosphorous (fertilizer)
Nitrogen (fertilizer)
Pesticides
Oil and grease
Concrete truck washout
Construction chemicals
Construction debris

What Is Required?

The Phase II Final Rule requires an operator of a regulated small MS4 to develop, implement,